

HIV/AIDS in the Department of Defense (DoD)

CAPT Glenn Schnepf, MC, USN
US Navy HIV Program Manager

Department of Defense

Directive 6485.1

19 March 1991

- Service Secretaries establish Service policies, procedures and standards for the identification, surveillance, education, and administration of personnel infected with HIV
 - US Army – AR 600-110 (1 June 1996)
 - US Navy – SECNAVINST 5300.30C (14 March 1990)
 - US Marine Corps – NAVMC 2904 (11 Jun 1991)
 - US Air Force – AFI 48-132 (1 August 2000)

HIV Testing

- Reasons to Test
 - Readiness
 - Identify unfitting conditions for worldwide deployment
 - Maintain troop readiness
 - Maintain the safety of the blood supply
 - Risk of tropical diseases while deployed overseas
 - Comply with host nation requirements and Status of Forces Agreements (SOFA)



HIV Testing

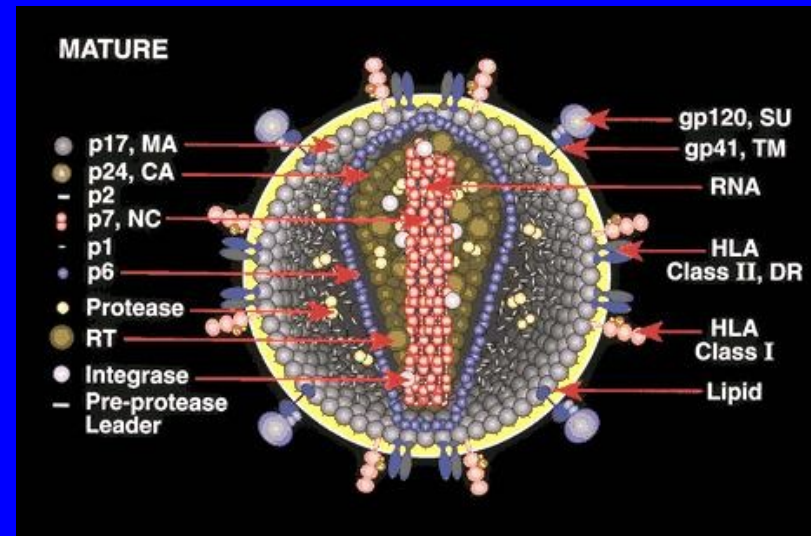
- Reasons to test, cont:
 - Prevent infections
 - Sexual partners
 - Co-workers (walking Blood Bank)
 - Patients (medical care providers)
 - Prevent other infectious diseases in the person
 - Detect immunologic deficiency
 - Offer treatment
 - Process for disability and separation

Bayes' Theorem

- The probability of HIV infection given a positive HIV test in population of low vs. high prevalence
- $P(\text{HIV infection, given positive HIV test}) = \frac{P(\text{positive HIV test, given HIV infection}) \times P(\text{HIV infection})}{P(\text{positive HIV test})}$ (P = probability)
- A positive test in a population with a high prevalence of the disease will have a lower number of false positive test results.
- A positive test in a population with a low prevalence of the disease will have a higher number of false positive test results.

HIV Testing

- Civilian laboratories – Service specific
- ELISA
 - Sensitive, but not specific
 - False negative rate
 - High prevalence – 0.3%
 - Low prevalence – 0.001%
 - False positive rate
 - Low prevalence – 1/135,000



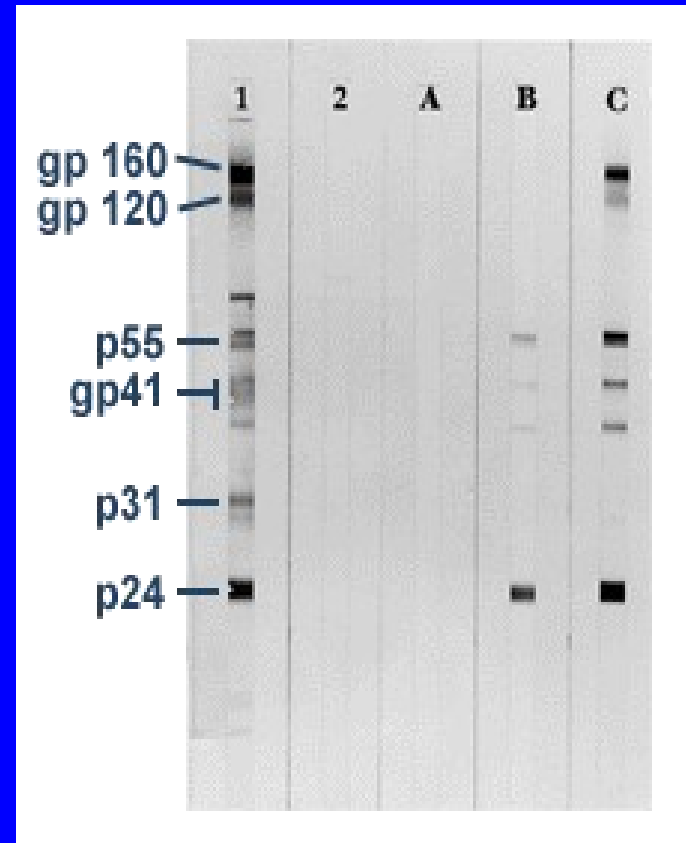
HIV Antigens

HIV Testing

- Western Blot (WB)
 - Specific, but not sensitive
 - A confirmatory test
 - Indeterminate tests can be a problem
 - Repeat screening in one month and three months
 - Persistently indeterminate WB occurs due to antibody formation after pregnancy, transplantation, blood transfusion, autoimmune disease, malignancy, and immunization.

HIV Testing

- Viral antigens
 - A different ELISA (p24 antigen)
- Viral culture
- PCR to amplify small quantities of virus in the plasma.
 - First Generation [400 – millions of copies]
 - Second Generation [50 – 75,000 copies]
- Rapid HIV Tests
 - Limited value for use



HIV Testing

- Accession Policy
 - HIV positive are not eligible for military service
 - The condition existed prior to entry
 - Potential for life threatening reactions to live virus immunizations at basic training
 - Not able to participate in battlefield blood donor activities or other military blood donation programs
 - No way to differentiate those who will progress to clinical disease and those who will remain healthy
 - Avoid medical costs (recruit to retirement)
 - The individual may not complete the initial service commitment (wasted training)

HIV Testing

- Accession Policy
 - HIV testing at the initial physical examination at the Military Entrance Processing Stations (MEPS)
 - HIV testing after arrival to Recruit Training Centers (boot camp)
 - Not eligible for military service if found to be HIV positive

Army HIV Testing

AR 600 - 110

- Force-wide screening every two years
- Screening 6 months prior to deployment or overseas transfer
- All drug/alcohol referrals
- All soldiers admitted to Army hospitals
- Prenatal care
- Sexually transmitted disease evaluations

Air Force HIV Testing

AFI 48-132

- Force-wide screening every five years
- Screening 1 year prior to deployment or overseas transfer
- All drug/alcohol referrals
- Prenatal care
- Sexually transmitted disease evaluations
- Newly diagnosed active tuberculosis

Navy HIV Testing

SECNAVINST 5300.30C

- Annual HIV test requirement
 - Active duty personnel overseas
 - Active duty personnel in deployable units
 - All active duty health care providers
 - Reserve personnel
- With routinely scheduled medical examinations
- Active duty with PCS orders to a continental US deployable command (within 12 months)
- Active duty with PCS orders overseas (within 12 months)
- All visits to STD clinics, alcohol or drug abuse treatment or counseling visits and prenatal care visits

Assignment Limitations

- Medical evaluation at an HIV Evaluation and Treatment Unit (HETU)
 - Army – 6 sites
 - Navy – 3 sites
 - AF – 1 site
- Individuals fit for duty shall not be retired or separated solely on the basis of serologic evidence of HIV infection
- Retire or separate Active Duty or Reserve service members who are determined to be unfit for further duty

Assignment Limitations

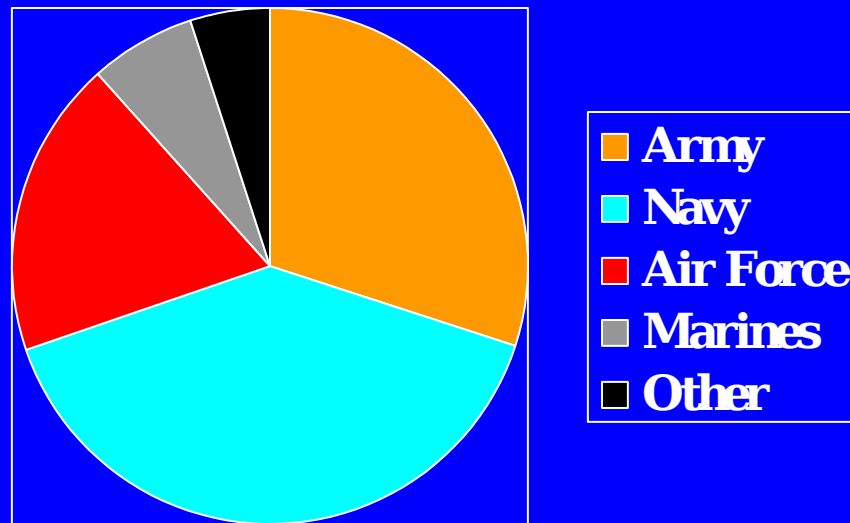
- Non-deployable overseas (OCONUS)
- Service specific restrictions
 - USMC doesn't allow for HIV positive recruiters or drill instructors
 - Army restricts some military-sponsored educational programs with additional service obligations
- HIV positive test alone may not be used adversely for administrative reasons
- Epidemiological data may not be used for any disciplinary or adverse administrative action

US ARMED FORCES STRENGTH FIGURES FOR 31 AUG 2003

SERVICE	END STRENGTH
US Army	499,146
US Navy	382,937
US Marine Corps	179,844
US Air Force	374,528
Total DoD	1,436,455

Data Source: DoD Directorate for Information Operations
and Reports (<http://www.dior.whs.mil/mmid/military/ms1.pdf>
)

Service Affiliation of HIV Positive Personnel 1999 - 2002



- Army 30.0%
 - Navy 39.8%
 - Air Force 18.6%
 - Marines 6.6%
 - Other 5.1%
- HIV Natural History
Study RV-122 Data,
1999-2002

HIV Prevalence/Incidence Comparisons

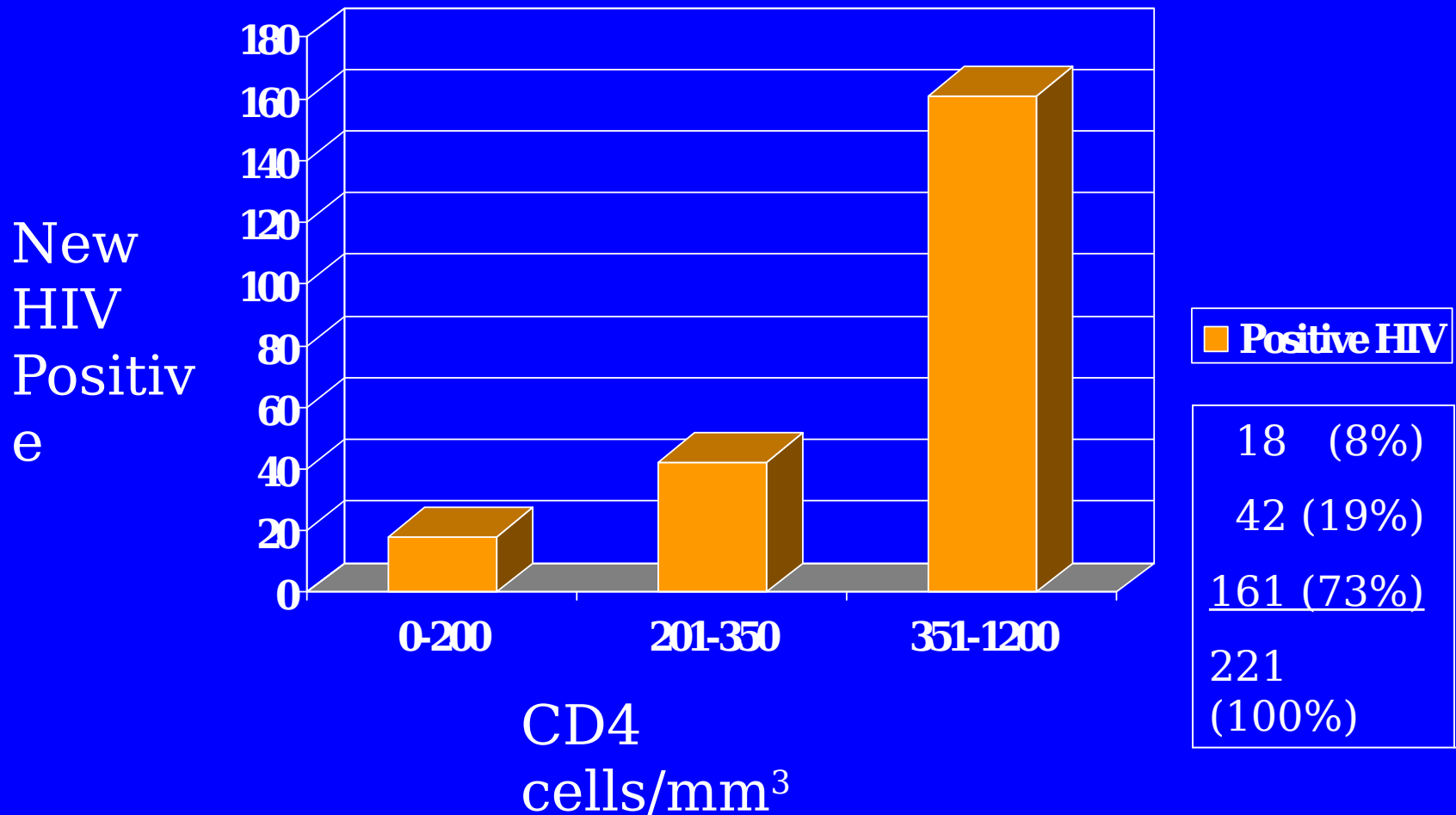
- HIV is not common in DoD
 - Since 1985 there have been ~ 5000 AD cases
 - < 1000 on active duty today
 - There are currently ~ 960,000 cases in the USA
 - Incidence in DoD is 0.1 – 0.2 per 1,000 tested
 - Incidence in US is 1 –3 per 1,000 tested
 - < 5 % of HIV positive tests are women in DoD
 - 30% of HIV positive tests are women in USA

DoD Clinical Data

- RV-122 Data
 - Tri-service *Natural History of HIV Disease* study
 - 1999 - 2002 data
- 221 active duty new positive tests
 - Average CD4 = 496 cells/mm³
 - Highest CD4 = 1110 cells/mm³
 - Lowest CD4 = 12 cells/mm³

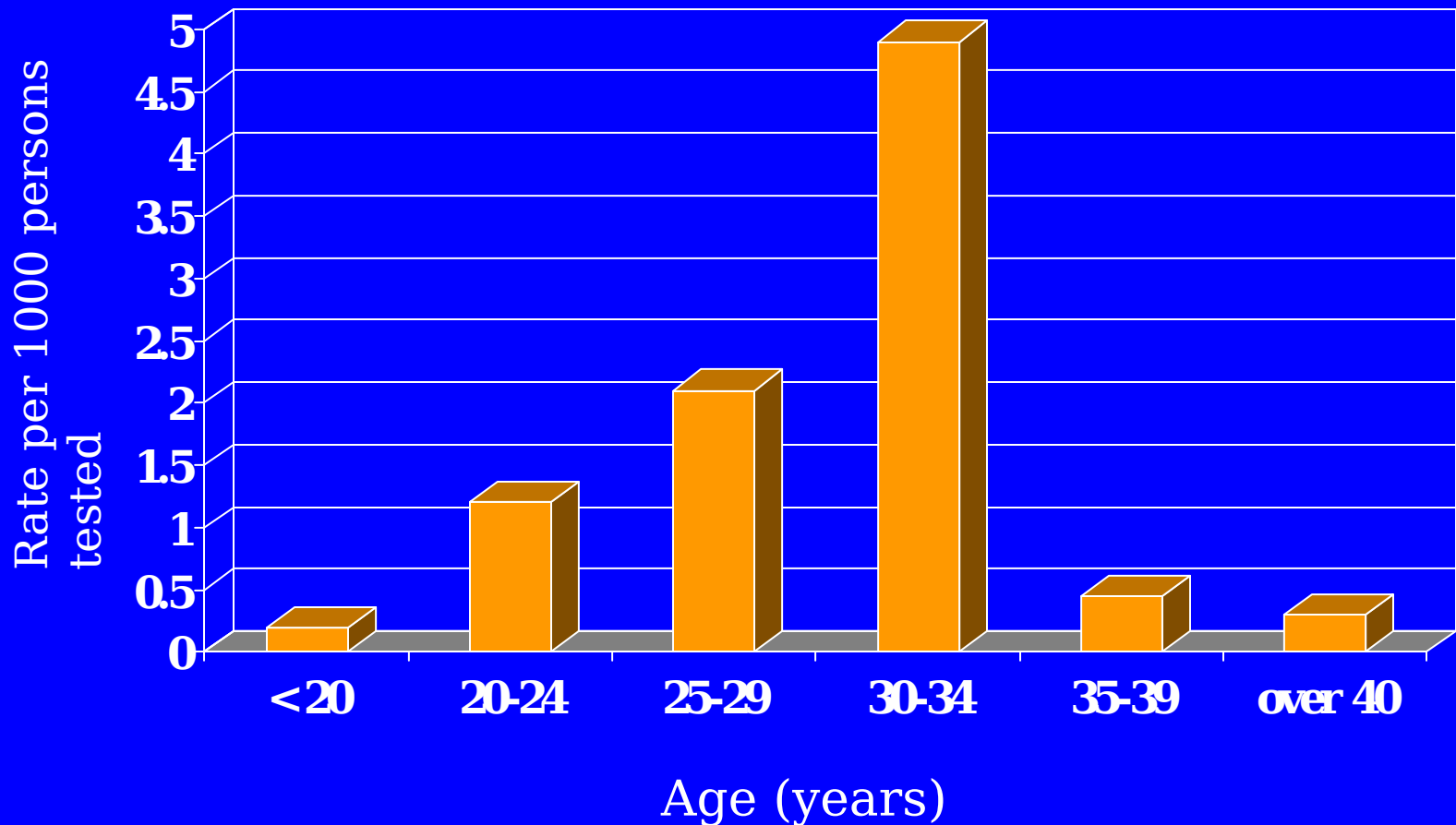
DoD Clinical Data

Initial CD4 Count (cells/mm³)



Rates of new diagnoses of HIV-1 infections

Army active duty, by age groups, 1992 - 2002



Assignment Limitations

- There is no demonstrated risk of transmission of disease in normal daily activities
- Universal precautions
- Non-deployable
- Assigned in CONUS, Hawaii, Alaska or Puerto Rico
- May reenlist
- An investment in training of these members has been made – so they need to be utilized



Post-Exposure Prophylaxis

- CDC guidelines
 - Four weeks of therapy ASAP
 - AZT + 3TC for low or medium risk exposure
 - AZT + 3TC + PI for high risk exposure
 - No data concerning transmission of drug resistant virus
- No invasive procedures
 - Dark hole, fingers and sharp instruments



Acute Seroconversion Illness

- Acute self-limiting infectious mononucleosis-like illness
- May present in 20 - 90% of individuals within 2 - 6 weeks of HIV infection

Symptom/Sign	Percent of Presentation
Fever	94 %
Lymphadenopathy	69%
Sore throat	66%
Rash	54%
Arthralgias & myalgias	48%
Headache	39%
Diarrhea	32%
Nausea/vomiting	29%

Active Duty Living with HIV

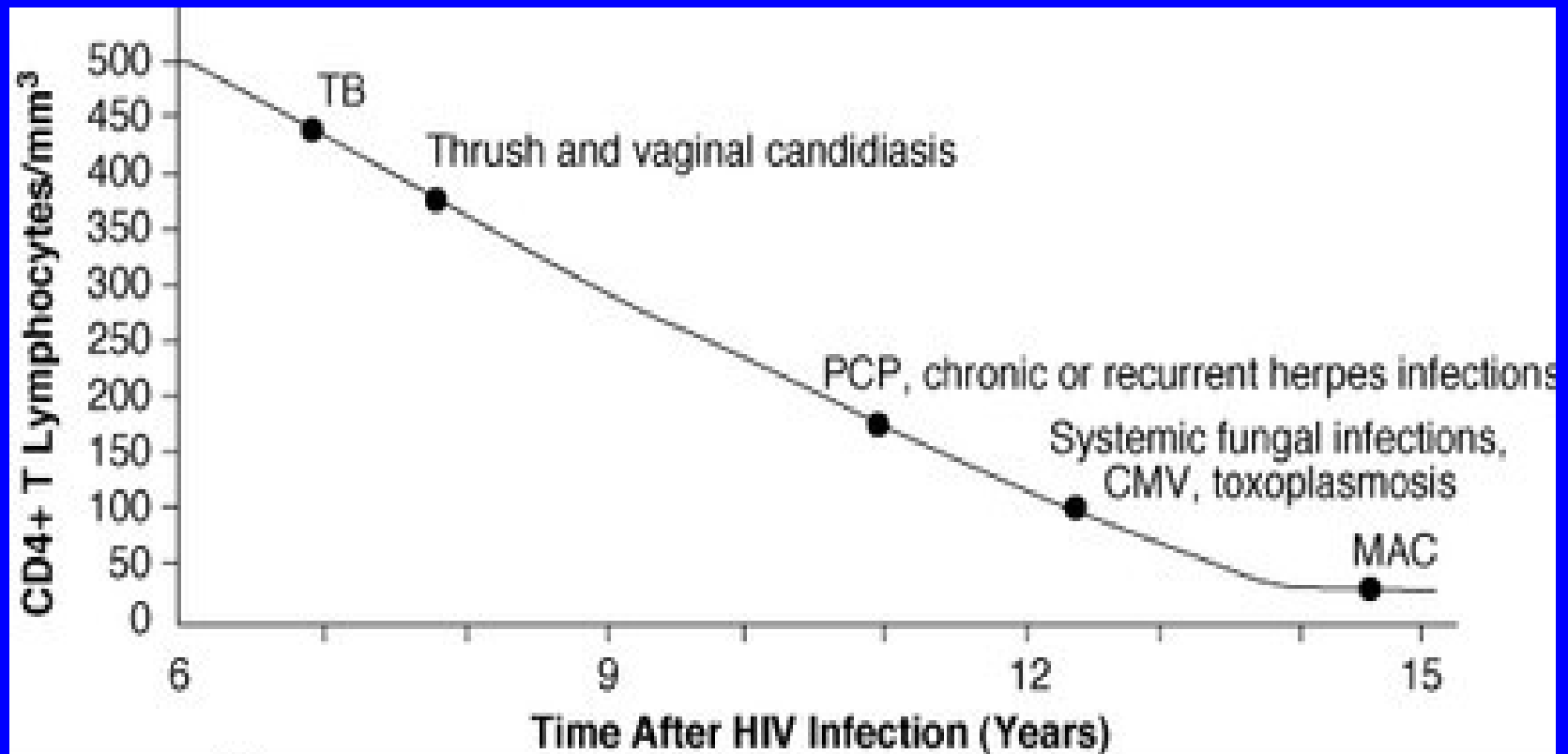
- CONUS, Hawaii, Alaska (*), or Puerto Rico (*)
- Fit for Duty
- No meds if CD4 $\geq$ 350 cells/mm³
- No meds if viral load $\leq$ 35,000 copies/ml
- Multiple regimens for HAART available
- Active Duty or Reserve service members who are found to be unfit for further duty are retired or separated (minimum 30% disability)

* = Not

Living with HIV

- HIV Evaluation and Treatment Units (HETU)
- Patient education is most important
 - Commitment to take medications correctly
 - Appropriate follow-up to monitor viral suppression
 - Health care maintenance
 - Immunizations
 - Nutrition
 - Drug Supplements
 - Safer Sex
 - Alcohol

Time Line for Opportunistic Infections in HIV



Future of HIV in DoD

- New DoD Directive is under review
 - DoD to provide guidance to the Services for personnel management (USD - P&R)
 - » deployment to OCONUS not specified
 - Forcewide screening tests to be done no more or less frequently, than every two years
 - Medical Corps to determine fitness for duty
 - Shall be allowed to serve in a manner that ensures access to appropriate medical care
 - Increased preventive training for service members
 - Comply with all host nation requirements for HIV screening

Future Challenges

- Medications change HIV into a progressive illness
- HIV can still be spread even with an “undetectable” viral load
- It will probably be a long time before there will be a successful vaccine available
- Increasing population of patients alive with HIV
- Maintaining interest in prevention



Questions ?

